Amendment to the Claims

The listing of claims will replace all prior versions, and listings of claims in the Application.

1.   *(Currently amended)* A system for processing image data representing biometric data, the system comprising:

a receiving module for receiving image data captured in a first, polar coordinate system; and

a coordinate conversion module coupled to the receiving module for converting the image data captured in the first, polar coordinate system to converted image data in a second coordinate system.

2.   *(Original)* The system of claim 1 further comprising a memory coupled to the coordinate conversion module.

3.   *(Currently amended)* The system of claim 1[[,]] wherein the second coordinate system is a rectangular coordinate system.

4.   *(Canceled)*

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5.   *(Currently amended)* The system of claim 1 further comprising a scanning

and capturing system coupled to the receiving module wherein the scanning and

capturing system comprises:

a substantially conical ~~non-planar~~ prism; and

a scanning imaging system optically coupled to the substantially conical ~~non-~~

~~planar~~ prism for capturing image data in a first, polar coordinate system and for

communicating the image data to the receiving module.

6.   *(Currently amended)* The system of claim 5[[4]] wherein the scanning

and capturing system is coupled to the receiving module via a data network.

7.   *(Original)* The system of claim 5 wherein the second coordinate system is

a rectangular coordinate system.

8.   *(Canceled)*

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9. *(Currently amended)* A system for processing image data representing biometric data, comprising:

a substantially conical ~~non-planar~~ prism;

a scanning imaging system optically coupled to the substantially conical ~~non-planar~~ prism for capturing the image data in a first coordinate system; and

an image conversion system coupled to the scanning imaging system for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

10. *(Currently amended)* The system of claim 9 wherein the image conversion system includes:

a receiving module for receiving image data captured in a first, polar coordinate system; and

a coordinate conversion module coupled to the receiving module for converting the image data captured in the first, polar coordinate system to converted image data in a second coordinate system.

11. *(Original)* The system of claim 10 wherein the image conversion system further comprises a memory coupled to the coordinate conversion module.

12. *(Original)* The system of claim 11 wherein the second coordinate system is a rectangular coordinate system.

13.   *(Canceled)*

14.   *(Currently amended)* The system of claim 11 wherein the <u>substantially</u> <u>conical</u> ~~non-planar~~ prism is a conical prism.

15.   *(Currently amended)* A system for processing image data representing biometric data, comprising:

a biometric imaging system comprising:

a <u>substantially conical</u> ~~non-planar~~ prism, an scanning imaging system optically coupled to the <u>substantially conical</u> ~~non-planar~~ prism for capturing the image data in a first coordinate system, and a first image conversion system coupled to the scanning imaging system for generating and storing conversion data; and

a second image conversion system coupled to the biometric imaging system for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

16.   *(Original)* The system of claim 15 wherein the first image conversion

system includes:

a receiving module for receiving image data captured in a first coordinate system;

and

a coordinate conversion module coupled to the receiving module for converting

the image data captured in the first coordinate system to converted image data in a

second coordinate system.

17.   *(Original)* The system of claim 16 wherein the second image conversion

system includes:

a receiving module for receiving image data captured in a first coordinate system;

and

a coordinate conversion module coupled to the receiving module for converting

the image data captured in the first coordinate system to converted image data in a

second coordinate system.

18.   *(Original)* The system of claim 15 wherein the second coordinate system

is a rectangular coordinate system.

19.   *(Original)* The system of claim 18 wherein the first coordinate system is a

polar coordinate system.

20.   *(Currently amended)* A system for processing image data representing biometric data, ~~wherein the system comprises~~ comprising:

a conversion module configured to convert ~~means for converting~~ image data captured in a first, polar coordinate system to converted image data in a second coordinate system.

21.   *(Original)* The system of claim 20 wherein the second coordinate system is a rectangular coordinate system.

22.   *(Canceled)*

23.   *(Currently amended)* A method for processing image data representing biometric data comprising:

receiving the image data captured in a first, polar coordinate system and storing the captured image data; and

converting the captured image data in the first, polar coordinate system to converted image data in a second coordinate system.

24.   *(Original)* The method of claim 23, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

25.   *(Canceled)*

26.   *(Currently amended)* The method of claim 23, <u>wherein the method</u> further

comprises ~~comprising:~~ generating and storing a conversion data array including

coordinate and offset data.

27.   *(Original)* The method of claim 23, further comprising:

prior to receiving captured image data, receiving criteria associated with

specifications for processing the captured image data; and

generating and storing at least conversion data array corresponding to the

received criteria.

28.   *(Original)* The method of claim 27 further comprising generating and

storing at least one conversion parameter corresponding to the received criteria.

29.   *(Currently amended)* The method of claim 27 wherein one of the at least

one conversion parameter includes a parameter indicating <u>an</u> ~~the~~ interpolation <u>method to

be used during conversion</u>.

30.   *(Original)* The method of claim 27 wherein each of the at least one

conversion data array is generated dynamically.

31.   *(Canceled)*

32.   *(Currently amended)* A method for processing image data representing biometric data in a system having a scanning and capturing system and an image conversion system, comprising:

generating and storing conversion data in the image conversion system;

capturing in the scanning and capturing system the image data in a first, polar coordinate system;

communicating the captured first, polar coordinate system image data to the image conversion system; and

converting the captured first, polar coordinate system image data to converted image data in a second coordinate system.

33.   *(Canceled)*

34.   *(Currently amended)* The method of claim 32~~33~~, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

35.   *(Canceled)*

36.   *(Canceled)*

37.   *(Canceled)*

38.   *(Currently amended)* A method for processing image data representing biometric data, the system comprising:

capturing the image data in a first, polar coordinate system; and

converting the captured image data in the first, polar coordinate system to converted image data in a second coordinate system.

39.   *(Canceled)*

40.   *(Original)* The method of claim 38, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

41.   *(Currently amended)* The method of claim 3840, further comprising[[:]] generating and storing conversion data, wherein the conversion data includes including polar coordinate and polar offset data.

42.   *(Canceled)*

43.   *(New)* A method for processing image data representing biometric data, the method comprising:

receiving the image data captured in a first coordinate system and storing the captured image data; and

converting the captured image data in the first coordinate system to converted image data in a second coordinate system, wherein the converting comprises:

for each pixel in an output rectangular area, the steps of:

performing a look up to obtain conversion data including the coordinate data and the offset data associated with respective pixel coordinates;

retrieving at least one sample of stored captured image data; and

interpolating each retrieved sample with weighting based on the looked up offset data to obtain a respective pixel value in the second coordinate system.

44.   *(New)* A method for processing image data representing biometric data in a system having a scanning and capturing system and an image conversion system, the method comprising:

generating and storing conversion data in the image conversion system;

capturing in the scanning and capturing system the image data in a first coordinate system;

communicating the captured first coordinate system image data to the image conversion system; and

converting the captured first coordinate system image data to converted image data in a second coordinate system, wherein the converting comprises: for each pixel in an output rectangular area, the steps of:

performing a look up in a conversion data array to obtain conversion data including the coordinate data and the offset data associated with respective pixel coordinates;

retrieving at least one sample of stored captured image data; and

interpolating each retrieved sample with weighting based on the looked up offset data to obtain a respective pixel value in the second coordinate system.

45.   *(New)* The method of claim 44 wherein the step of interpolating each retrieved sample includes calculating the weighting.

46.   *(New)* The method of claim 44 wherein the step of interpolating each retrieved sample includes performing a look up to determine the weighting.

47.   *(New)* A method for processing image data representing biometric data, the method comprising:

capturing the image data in a first coordinate system;

converting the captured image data in the first coordinate system to converted image data in a second, rectangular coordinate system, wherein the converting comprises:

for each pixel in an output rectangular area, the steps of:

performing a look up to obtain conversion data including the polar coordinate data and the offset data associated with respective pixel coordinates;

retrieving at least one sample of stored polar space image data; and

interpolating each retrieved sample with weighting based on the looked up polar offset data to obtain a respective pixel value in rectangular image space; and

generating and storing conversion data, wherein the conversion data includes polar coordinate and polar offset data.